

AMENDMENTS TO THE CLAIMS:

Claims 1-4 (Cancelled)

5. (Currently amended) A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor to which ~~the~~ gas compressed by the first compressor is fed ~~to~~, and a turbine to be driven by ~~the~~ combustion gas ~~of~~ from the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed ~~the~~ gas from said first compressor to the turbine, said turbine-cooling system comprising: a heat exchanger to cool the gas compressed by said first compressor, a liquid-separating means for separating liquid from the gas cooled by ~~the~~ said heat exchanger, and a second compressor to raise the pressure of the gas having passed through ~~the~~ said liquid-separating means to a desired level.

6. (Currently amended) A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor to which ~~the~~ gas compressed by the first compressor is fed ~~to~~, and a turbine to be driven by ~~the~~ combustion gas ~~of~~ from the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed ~~the~~ gas from said first compressor to the turbine, said turbine-cooling system comprising: a heat exchanger to cool the gas compressed by said first compressor, a dust-collecting means for separating ~~dust, etc.~~ dust from the gas cooled by ~~the~~ said heat exchanger, and a second compressor to raise the pressure of the gas having passed through ~~the~~ said dust-collecting means to a desired level.

7. (Currently amended) A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor to which ~~the~~ gas compressed by the first compressor is fed ~~to~~, and a turbine to be driven by ~~the~~ combustion gas ~~of~~ from the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed ~~the~~ gas from said first compressor to the turbine, said turbine-cooling system comprising: a heat exchanger to cool the gas compressed by said first compressor, a liquid-separating means for separating liquid from the gas cooled by the heat exchanger, a dust-collecting means for separating ~~dust, etc.~~ dust from the gas having passed through the liquid-separating means, and a second compressor to raise the pressure of the gas having passed through the dust-collecting means to a desired level.

8. (Currently Amended) A gas turbine unit ~~as claimed in claim 5, wherein said turbine-cooling system comprises~~ comprising a first compressor to compress and discharge gas, a combustor to which gas compressed by the first compressor is fed, and a turbine to be driven by combustion gas from the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed gas from said first compressor to the turbine, said turbine-cooling system comprising: a heat exchanger to cool the gas compressed by said first compressor, a liquid-separating means for separating liquid from the gas cooled by said heat exchanger, a second compressor to raise the pressure of the gas having passed through said liquid-separating means to a desired level, and a dust-collecting means for separating ~~dust, etc.~~ dust from gas disposed below said second compressor.

9. (Currently amended) A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor to which ~~the~~ gas compressed by the first compressor is fed ~~to~~, and a turbine to be driven by ~~the~~ combustion gas ~~of~~ from the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed ~~the~~ gas from said first compressor to the turbine, said turbine-cooling system comprising: a heat exchanger to cool the gas compressed by said first compressor, a liquid-separating means for separating liquid from the gas

cooled by the heat exchanger, a first dust-collecting means for separating ~~dust, etc.~~ dust from the gas having passed through the liquid-separating means, a second compressor for raising the pressure of the gas having passed through the first dust-collecting means to a desired level, and a second dust-collecting means for separating ~~dust, etc.~~ dust from the gas whose pressure has been raised by the second compressor.

10. (Currently Amended) A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor to which ~~the~~ gas compressed by the first compressor is fed ~~to~~, and a turbine to be driven by the combustion gas ~~of~~ from the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed ~~the~~ gas from said first compressor to the turbine to cool the turbine and to feed ~~the~~ gas from the turbine to the combustor, said turbine-cooling system comprising an indirect cooling heat exchanger to cool the gas compressed by said first compressor, a mist separator for separating liquid from the gas cooled by the heat exchanger, a cyclone for separating ~~dust, etc.~~ dust from the gas having passed through the mist separator, a second compressor to raise the pressure of the gas having passed through the cyclone to a desired level and a filter for separating ~~dust, etc.~~ dust from the gas whose pressure has been raised by the second compressor.

Claims 11 and 12 (Cancelled)

13. (Withdrawn) A gas turbine unit as claimed in claim 5, wherein a means to measure the temperature of the gas cooled by the heat exchanger is provided.

14. (Withdrawn) A gas turbine unit as claimed in claim 5, wherein a means to measure the temperature of the gas cooled by said heat exchanger and a means for controlling the supply of refrigerant to said heat exchanger in accordance with the temperature measured are provided.

15. (Withdrawn) A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor, a means to measure the temperature of the gas cooled by the heat exchanger, a means for controlling the supply of refrigerant to said heat exchanger in accordance with the temperature measured, a liquid-separating means for separating liquid from the gas cooled by the heat exchanger, a first dust-collecting means for separating dust, etc. from the gas having passed through the liquid-separating means, a second compressor to raise the pressure of the gas having passed through the dust-collecting means to a desired level, and a second dust-collecting means for separating dust, etc. from the gas whose pressure has been raised by the second compressor, said second dust-collecting means being at least two filters disposed in parallel in the cooling system of the turbine.

16. (Withdrawn) A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas

compressed by said first compressor, a dust-collecting means for separating dust, etc. from the gas cooled by the heat exchanger, and a second compressor to raise the pressure of the gas having passed through the dust-collecting means to a desired level, said dust-collecting means being at least two filters disposed in parallel in the cooling system of the turbine.

17. (Withdrawn) A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor, a dust-collecting means for separating dust, etc. from the gas cooled by the heat exchanger, and a second compressor to raise the pressure of the gas having passed through the dust-collecting means to a desired level, said dust-collecting means being at least two filters disposed in parallel in the cooling system of the turbine, a pressure detector being provided to detect the difference between the pressures before and after the filter, and passage opening-and-closing means being disposed above and below the cooling system of the filter to each control the flow of the air into the filter.

18. (Withdrawn) A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor, a liquid-separating means for separating liquid from the gas

cooled by the heat exchanger, a first dust-collecting means for separating dust, etc. from the gas having passed through the liquid-separating means, a second compressor to raise the pressure of the gas having passed through the first dust-collecting means to a desired level, and a second dust-collecting means for separating dust, etc. from the gas whose pressure has been raised by the second compressor, said first dust-collecting means being at least two filters disposed in parallel in the cooling system of the turbine.

19. (Cancelled)

20. (Currently Amended) A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor to which the gas compressed by the first compressor is fed ~~to~~, and a turbine to be driven by ~~the~~ combustion gas ~~of~~ from the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed ~~the~~ gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor, a separating means for separating liquid and ~~dust, etc.~~ dust from the gas cooled by the heat exchanger, a second compressor to raise the pressure of the gas having passed through said separating means to a desired level, and a dust-collecting means for separating ~~dust, etc.~~ dust from the gas whose pressure has been raised by the second compressor.

21. (Withdrawn) A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas

compressed by said first compressor, a dust-collecting means for separating dust, etc. from the gas cooled by the heat exchanger, a second compressor to raise the pressure of the gas having passed through said dust-collecting means to a desired level, and a separating means for separating liquid and dust, etc. from the gas whose pressure has been raised by the second compressor.

22. (Withdrawn) A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor, a dust-collecting means for separating dust, etc. from the gas cooled by the heat exchanger, a separating means for separating liquid and dust, etc. from the gas having passed through said dust-collecting means, and a second compressor to raise the pressure of the gas having passed through the separating means to a desired level.

Claims 23-25 (Cancelled)

26. (Currently Amended) A gas-turbine cooling method for a gas turbine unit comprising a compressor to compress and discharge gas, a combustor to which ~~the~~ gas compressed by the compressor is fed ~~to~~, and a turbine to be driven by ~~the~~ combustion gas ~~of~~ from the combustor;

wherein the gas compressed by said compressor is cooled, liquid is separated from the gas cooled, ~~dust, etc. are~~ dust is separated from the separated gas, the pressure of the separated gas is raised to a desired level, and after ~~dust, etc. are~~ dust is separated from the gas whose pressure has been raised, the gas is fed to the turbine so that the turbine may be cooled.

27. (Cancelled)

28. (Withdrawn) A gas-turbine cooling method for a gas turbine unit comprising a compressor to compress and discharge gas, a combustor which the gas compressed by the compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

said cooling method includes a first step to cool the gas compressed by said compressor, a second step to separate dust from the gas cooled, a third step to raise the pressure of the separated gas to a desired level, a fourth step to cool the turbine by feeding the gas whose pressure has been raised to the turbine, and a step, either between said second and third steps or between third and fourth steps, to separate liquid and dust from the gas.

29. (New) A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor to which gas compressed by the first compressor is fed, and a turbine to be driven by combustion gas from the combustor; wherein:

said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine,

said turbine-cooling system comprises: a heat exchanger to cool gas compressed by said first compressor, a liquid-separating means for separating liquid from the gas cooled by said heat exchanger, and a second compressor to raise the pressure of the gas having passed through said liquid-separating means to a desired level, and

said liquid-separator means is disposed below said heat exchanger and above said second compressor in said turbine-cooling system.

30. (New) A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor to which the gas compressed by the first compressor is fed, and a turbine to be driven by combustion gas from the combustor; wherein:

said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine,

said turbine-cooling system comprises: a heat exchanger to cool gas compressed by said first compressor, a liquid-separating means for separating liquid from the gas cooled by said heat exchanger, and a second compressor to raise the pressure of the gas having passed through said liquid-separating means to a desired level, and

said heat exchanger, said liquid-separating means and said second compressor are arranged from upstream to downstream in said turbine-cooling system.

31. (New) A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor to which the gas compressed by the first compressor is fed, and a turbine to be driven by combustion gas from the combustor; wherein:

said gas turbine unit has a turbine-cooling system to feed gas from said first compressor to the turbine,

said turbine-cooling system comprises: a heat exchanger to cool gas compressed by said first compressor, a dust-collecting means for separating dust from the gas cooled by said heat exchanger, and a second compressor to raise the pressure of the gas having passed through said dust-collecting means to a desired level, and

said dust-collecting means is disposed below said heat exchanger and above said second compressor in said turbine-cooling system.

32. (New) A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor to which the gas compressed by the first compressor is fed, and a turbine to be driven by combustion gas from the combustor; wherein:

said gas turbine unit has a turbine-cooling system to feed gas from said first compressor to the turbine,

said turbine-cooling system comprises: a heat exchanger to cool gas compressed by said first compressor, a dust-collecting means for separating dust from the gas cooled by said heat exchanger, and a second compressor to raise the pressure of the gas having passed through said dust-collecting means to a desired level, and

said heat exchanger, said dust-collecting means and said second compressor are arranged from upstream to downstream in said turbine-cooling system.